

Sharing a Regional Trunked Radio System

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Sharing a Regional Trunked Radio System

Topics

- 1 - Constructing your own trunked radio system
- 2 - Joining an existing system

Constructing Your Own Trunked Radio System

Where Do You Start?



- Organize a core group of public safety providers
- You want a group that is interested and has the energy to define public safety communications in your city or county
- It is important that people with political visibility form the team
- A series of educational and planning meetings should be held to present the issues

Constructing Your Own Trunked Radio System

Visionary Team

- The visionary team should develop a position paper
- Outline the results of the educational and planning meetings
- Define the future road map to be taken by the public safety communications in your city or county
- If the position paper recommends a system shared by all users, then a system management structure needs to be defined

Constructing Your Own Trunked Radio System

Define System Management

- Who owns and operates the system?
- How is capital and ongoing funding obtained?
- How will management decisions be made?
- How will users provide input into the operation and maintenance of the system?
- How will the system evolve over the years?
- How will eventual replacement of the system occur?
- How will sales and support occur?

Constructing Your Own Trunked Radio System

Detailed Design for Project Budgeting

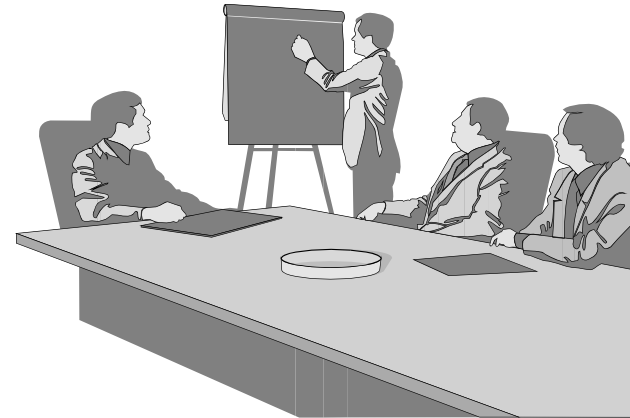
- Present and future coverage requirements
- Number of sites to provide the necessary public safety grade radio coverage
- System loading / traffic analysis
- Radio Frequency (RF) channel requirements
- Engineering and project management costs
- Technology and spectrum selection
- Site development costs



Constructing Your Own Trunked Radio System

Detailed Design for Project Budgeting

- Replacement or enhancement of existing dispatch consoles costs
- Backbone transport costs
- Mobile and portable costs
- Encryption costs
- Contingency fund
- Training costs - users and dispatch
- Cut-over costs
- Baseline signal level measurements costs



Constructing Your Own Trunked Radio System

Risk Analysis

- A trunked radio system requires a significant amount of political will power to obtain funding and to work out the necessary cooperative agreements
- A trunked radio system providing local or wide-area coverage is an expensive proposition
- Coverage expectations and political success will run high
- A trunked radio system is not a small undertaking
- Avoid under funding
- Avoid setting unrealistic project milestones

Constructing Your Own Trunked Radio System

Risk Analysis

- Avoid cutting corners on the number of sites and "watering down" in-building coverage requirements
- A detailed system design and project budget will help avoid surprises - fiscal reality
- Secure the necessary radio channels for present and future growth early in the project
- A large number of radio sites and system development will require several years to complete

Constructing Your Own Trunked Radio System

Risk Analysis

- Land use planning and conditional use permits will be a long and arduous process - plan accordingly
- A detailed cut-over plan is critical to the success of your project
- Avoid bringing on radio users in areas that do not have public safety grade coverage
- Keep talkgroup counts and templates simple
- Training is ongoing
- Radio reprogramming is inevitable - plan and budget

Constructing Your Own Trunked Radio System

Risk Analysis

- Build radio programming costs into the rates for the first couple of years
- Budget system life-cycle costs when setting the monthly/yearly rates you charge your radio users
- Give yourself some budget breathing room - avoid setting your rates too low
- Spend some time working on cost containment strategies

Joining an Existing System

What You Need to Know

- Strategic partnerships and collaboration can be an economic benefit
- Your agency may have radio sites, channels and other investments that can help lower your monthly rates
- Identify and leverage these investments when negotiating a contract
- Most contracts are either a partnership or interagency agreement for services

Joining an Existing System

What You Need to Know

- Clear and concise interagency agreements/contracts will help avoid future expectation problems
- Know your coverage requirements - critical facilities, suburban, urban, rural and wilderness areas. There is a difference!
- You really do want coverage predictions and drive testing measurements in your desired coverage areas before you "subscribe" to another agencies system

Joining an Existing System

What You Need to Know

- Deal with coverage issues during the negotiation process
- Who pays for future coverage enhancements?
- How will the monthly rates be determined for the life of the system? What prevents the rates from doubling in the next couple of years? Can the rates be tied to the C.P.I. for a set period of time?
- What is the planned life-cycle of the system?
- Where are your mobile and portables on the system life-cycle time line? Analog today -digital tomorrow?

Joining an Existing System

What You Need to Know

- Who pays for mandatory backbone and mobile/portable firmware upgrades that may not directly benefit you?
- Air-time costs? Talkgroup costs? Encryption costs?
- Template programming costs? First time development costs? Update costs?
- What sites will you have access to? Any restrictions?
- Will you have access to neighboring systems for interoperability or mutual aid communications?
- What level of prioritization will you have?

Joining an Existing System

What You Need to Know

- How will interference and coverage problems be reported, tracked and mitigated?
- Do you have access to simplex channels? Exclusive use? Shared? Regional?
- Who pays for backbone upgrades?
- What are the monthly access fees per radio?
- Are there any “one time” assessment charges?

Joining an Existing System

What You Need to Know

- What levels of backbone redundancy are included in the monthly access fees? Are there different backup levels for different users?
- What levels of backup will I have access to when the system fails?
- What are my training costs? Will I have access to ongoing training materials and support?
- Will I have access to “patches” between my old radio system and the new radio system during the transition?
- You want a single point of contact.

Questions?

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Contact Information

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"If you are putting in any new technology... pay attention to the organizational impact rather than the technology. The technology will take care of itself; the organization will never take care of itself."

Ian Morrow, VP Technical Planning, American Express